TELECOMMUNICATIONS AND RADIO ENGINEERING
CONTENTS FOR 1980

Number 1

	Page English	Russian
PART 1 TELECOMMUNICATIONS Volume 34		
SATELLITE COMMUNICATIONS		
L. Ya. Kantor, V. P. Minashin, I. S. Povolotskii, A. V. Sokolov, and N. V. Talyzin: The "Moskva" Satellite Television Broadcasting System	1	6
L. Ya. Kantor, E. I. Kumysh, B. A. Lokshin, A. M. Pokras, A. V. Sokolov, V. M. Tsirlin, I. S. Tsirlin, and E. Ya. Chekhovskiy: The Receiving Station of the Moskva System	6	10
COMMUNICATION NETWORKS		
M. A. Shneps: Several Problems Involved in the Control of a Telephone Network	12	21
V. O. Shvartsman and V. G. Osipov: The Transmission of Data Over Telephone Switching Networks	17	25
DIGITAL COMMUNICATIONS SYSTEMS		
L. M. Goldenberg, B. D. Matyushkin and M. N. Polyak: Digital Couplers (Transmultiplexers) in Communications Systems	21	28
TELEVISION		
M. G. Lokshin: Improving the Effectiveness of Using the Frequency Channels of the TV Broadcasting Network	27	38
A. Sh. Khazanov, V. N. Shislo, A. V. Scherbich, V. D. Korabchikov, I. Yu. Pashlovskiy and E. V. Solnechnaya: A Centralized Automatic System for the Monitoring and Control of Radio and Television Broadcasting Stations	32	42
G. I. Nikonov: A Method of Compensating Interference when Receiving TV Signals Using Space-Diversity Antennas	37	47
A. B. Klibaner and N. V. Pevtsov: The Quality of Servicing Automatic Intercity Telephone Communications	43	62
PART 2 RADIO ENGINEERING Volume 35		
M. E. Gertsenshtein and F. A. Levinzon: Radio Engineering Aspects of Gravitational Wave Reception	47	6
M. B. Khaletskiy, A. A. Tikhonov, A. E. Ivanov and G. M. Glebov: Integrated Magnetic Heads: Theory and Practice	53	12
INSTRUMENTS		
A. L. Yakimakha: MOS Transistor Micropower Inverters	60	21
N. G. Topol'skiy and V. P. Noskov: A Hierarchical Procedure for Arranging Radio-Electronic Circuit Elements in Minimal Groups	64	25
A. N. Bubennikov: A Model of the Distributed Base Resistance of a Transistor with Strip Emitter	67	28
RADIO CIRCUITS AND SIGNALS		
A. A. L'vovich and B. D. Kuz'min: An Analytical Expression for the Spectra of Walsh Functions	72	33

	Page English	Russian
K. I. Chaiko: The Use of Walsh Functions for Data Transmission over Channels with Short-Term Interruptions	79	39
P. V. Belov and V. I. Orlov: Interference Immunity of Elevation-Frequency Diversity Reception of Signals in a Channel with Concentrated Interference		
ANTENNA AND WAVEGUIDE TECHNIQUES AND THE PROPAGATION OF RADIO WAVES		
B. G. Belyaev: The Synthesis of Arbitrarily-Distributed Sources which Focus an Electromagnetic Field with a Given Current Norm	88	49
BRIEF COMMUNICATIONS		
A. N. Mart'yanov and V. G. Tatsenko: Computer Simulation of a Nonlinear Tracking Filter when Reserving Poisson Processes	92	53
V. A. Malyshev, A. N. Levterov, and A. F. Radchenko: An Asynchronous Microwave Detector Using a Gallium Arsenide Device at Room Temperature	94	56
Yu. G. Efremov, A. F. Nevgasimyi, B. D. Solganik and V. G. Shermarevich: Analysis of Mixers with External Bias	96	58
E. V. Borisov: An Algorithm for Processing Radio-Measurement Data	98	60
L. N. Kovalenko, L. G. Krasnyi, and N. I. Skripka: The Detection of Simple and Complex Signals in the Presence of Reverberation Interference	99	61
P. A. Ivankin and E. V. Lebedinskiy: A Method of Estimating the Mean Power of a Random Process Whose Values have Nakagami's Probability Distribution	102	64
Yu. A. Kuznetsov: A Method of Discriminating Random Signals with a Uniform Distribution of the Instantaneous Values of the Amplitudes	105	67
T. Z. Zhenaitis and Yu.-L. S. Sruogyus: Spectrum of Current in an Inertialess Circuit with Power-Function Nonlinearity Acted Upon by a Multitone Voltage	106	69
A. K. Salakh: Directional Properties of a Corner Antenna	108	72
B. A. Murmuzhev and V. A. Popov: Radiation Losses in the Case of Axial Separation of Two Dielectric Striplines	111	75
FOR THE ENGINEER		
G. S. Veksler, L. L. Pavlovskiy and V. V. Pilinskiy: The Conditions of Operation of Integrated-Circuit Voltage Stabilizers	113	77
A. N. Ignatov, K. V. Martyukhin and V. V. Nikiforov: Electronic Analog-Signal Switches	115	79
Ya. T. Zagorskiy and A. A. Kuznetsov: Transistor Amplifiers under Micropower Conditions	116	82
A. AM. Fishtein: The Phase Characteristics of Transistor Amplifiers with AGC		
G. V. Petrov: The Effect of Spread in the Parameters of Matching Circuits and Active Elements on the Characteristics of Hybrid Integrated Circuits in Balanced Amplifiers	123	90

Number 2

PART 1
TELECOMMUNICATIONS
Volume 34

MULTICHANNEL RADIO COMMUNICATIONS		
I. V. Kuz'min, V. L. Lokshin, Yu. I. Nafikov and V. G. Yampol'skiy: Use of Passive Reflector Repeaters in Radio-Relay Links	1	1
P. A. Polushin, A. G. Samoylov and S. P. Tarakankov: An Estimate of the Noise Immunity of Diversity Combiners	7	7
SATELLITE COMMUNICATIONS		
P. S. Kurakov: Selection of the Parameters of an Intersatellite Communication Link	13	11

	Page English	Russian
WIRE AND RADIO BROADCASTING		
V.N. Aksenov: The Level of Rectifier Subharmonics in Radio Broadcast Transmitters	17	23
A.M. Grishin: The Effect of Instabilities of the Transmission Coefficient of the Channel on Broadcast Quality	21	29
ANTENNA FEEDERS		
Yu.M. Mel'nikov, V.G. Petrova and N.N. Borisov: Interference Screening of Radio Relay Antennas	23	31
E.Yu. Shered'ko: A Turniquet Antenna Radiating Toward the Zenith	28	35
COMMUNICATION LINES		
O.V. Korobko: Analysis of Crosstalk in Optical Communications Cables	33	40
G.I. Grodnev: Calculation of the Crosstalk in Optical Cables	38	44
CIRCUIT THEORY AND FILTERS		
V.N. Zhelnov: The Electrical Characteristics of a Synchronous Filter	43	49
V.N. Shamshin: The Construction and Design of Active Wideband Quadrature Phaseshifters	49	55
L.V. Egorova: The Design of Crystal Rejector Filters Based on a Monolithic Structure	52	57
PART 2 RADIO ENGINEERING Volume 35		
D.S. Kontorov: A Method of Making Systematic Investigations in Radio Engineering	57	6
RADIOENGINEERING SYSTEMS		
D.I. Ivanov: Calculation of the Radio Interference in an FM Multichannel Communications System Due to the Interfering Signal Which Transmits the Digital Data	71	21
ANTENNA-WAVEGUIDE TECHNIQUES AND THE PROPAGATION OF RADIO WAVES		
V.D. Gusev and L.I. Prikhod'ko: The Angles of Arrival of a Reflected Ionospheric Signal in Multibeam Propagation	75	25
BRIEF COMMUNICATIONS		
A.N. Sharov: Carrying Capacity of Radio Links with Frequency Adaptation	79	31
Ya.V. Alishev: Interference Immunity of Communication Systems when Transmitting Analog Signals over an Optical Channel with Pulse Polarization Modulation and an FM Subcarrier	81	34
Yu.D. Sverkunov: Measurement of Multidimensional Transfer Functions using a Nonlinear System	83	26
V.I. Shelukhin: Analog Correlator of Wideband Noise Signals	86	39
A.A. Aleksanyan, V.A. Galakhov, M.A. Utkin and V.N. Plyusnin: Effect of the Inertial Properties of Transistors on Distortions in Audio-Frequency Switching Amplifiers	87	41
A.I. Tyazhev: Frequency Discriminators Based on Digital Phase-Lock Automatic-Frequency-Control Systems	89	43
I.P. Berezhnyak and V.N. Kuleshov: Inherent Noise in a Balanced Phase Discriminator	91	46
L.S. Gordeyev: Errors due to Quadrupling the Carrier Frequency in FM Magnetic Recording	93	48
A.Z. Venger, N.I. Gavrilova and A.M. Yakomenko: A Possible Method of Reducing the Noise of Oscillators Using IMPATT and Gunn Diodes	95	50
V.B. Tekshev: Noise Properties of HF and Microwave Transistors	96	52

	Page English	Russian
B.S. Rybakov: Signal Phase Correlation Coefficient in the Presence of Correlated Gaussian Noise with Nonsymmetrical Spectral Density	99	55
V.N. Kochemasov, V.P. Kryazhev and V.S. Okoneshnikov: LFM Signals with Intrapulse Phase-Shift Keying	101	57
P.A. Popov: Accelerated Synthesis of an Antimetric Reactance Fourpole	103	60
E.N. Khomyakov and O.G. Kartashov: Estimation of the Parameters of Two-Dimensional Spatial Signals	105	62
V.F. Nesteruk: Recognition of Objects Under Conditions of General Simulation and when Interference is Present in the Channel using the Theory of Games	106	64
Yu.V. Kulikov: A Wideband Autotransformer Using Long-Line Sections	109	67
R.E. Gut: Efficiency of Data Transmission with Discrete Control of Signal Duration	111	69
V.V. Rogozin and A.N. Averin: The Field of a Balanced Stripline	113	73
Yu.Z. Danyushevskiy and V.N. Shkalikov: Reflection-Type Phase Shift Keyer Using a Dielectric-Filled Waveguide	116	75
G.G. Tatevosyan: Calculation of the Line Capacitance and Electric Field of a Balanced Stripline	117	77
FOR THE ENGINEER		
B.S. Kogan: A Capacitive-coupled Selective Amplifier	120	80
E.D. Polikarpov, E.A. Khenkin, A.Ya. Undrevich, and D. Kh. Gluzbert: An Engineering Method of Calculating the Noise Factor of Frequency Converters Using MOS Transistors	121	82
B.V. Kazakov: Master Generators of Line and Frame Frequency	124	84
Ya.T. Zagorskii, I.N. Kozlyayeva and V.S. Samuillo: Investigation of the Instability of the Source Follower in the 2SS842 Integrated Circuit	125	87

Number 3

PART 1
TELECOMMUNICATIONS
Volume 34

G.L. Sosunov and V.F. Manakov: An Unattended Amplifier Station for the B-2-2 System	1	7
AUTOMATIC SWITCHING AND TELEPHONY		
S.N. Vasilyev, V.P. Parilov, I.E. Soloveichik, V.G. Churakova and V.I. Shlyapoberskiy: A Self-Contained Subscribers Electrical Unit for Determining the Cost of Telephone Services	4	10
L.A. Berezovich and L.M. Brener: The RSL-DSh-ATS Interstation Communication Equipment for Rural Telephone Networks	7	13
Yu.A. Baranov: The Organization of the Automatic Decentralized Information Services of an Urban Telephone Station	11	16
A.M. Zelinskiy, A.Ya. Markovich and M.N. Pisker: Optimization of the Strategy for Servicing Calls in Switching Systems Taking into Consideration the Vulnerability of the Equipment to Failures	16	20
TELEGRAPHY		
S.P. Vol'fbein, E.M. Gromov, B.G. Korop, N.A. Spektor and L.I. Yaroslavskiy: A Multiplexer for the General-Purpose Channels of the DUMKA Equipment	21	24
E.E. Dvorskiy, I.L. Tarnopolskiy, I.A. Parikozhka and M.Ya. Eliseyeva: Automatic Control of the Interstation Sections of Switched Telegraph Networks	26	28
E.L. Vladimirskaya and V.N. Vrazhnov: Design of the PTS-K Telegraph Substation Equipment	31	32
ANTENNA-FEEDER DEVICES		
Yu.M. Isayenko and V.V. Malin: The Basic Parameters of Bimetallic Waveguides for Radio-Relay Links for the 6 GHz Band	36	36

	Page English	Page Russian
L.M. Logacheva and D.Yu. Shebaldin: A Dissipative E-Plane Waveguide Filter	39	39
POWER SUPPLIES		
G.S. Stoyanov and S.N. Prytkov: A Pulse-Width DC Stabilizer	41	41
V.E. Kitayev and L.F. Zakharov: Analysis of the Stability of Continuously-Acting Pulsed Stabilizers with Pulse-Width Modulation	43	43
PART 2 RADIO ENGINEERING Volume 35		
RADIO-ELECTRONIC DEVICES		
A.V. Gusev and V.N. Rudenko: Calculation of the Voltage Fluctuations of a Josephson Contact	48	7
A.E. Panov: Miniature Broadband Microwave Mixers with Two-Conductor Transmission Lines	52	12
DEVICES AND ELEMENTS		
D.G. Fialkova and A.Z. Khaikov: Characteristics of Klystrons with Double-Gap Resonators in the Output Circuit	56	15
RADIO CIRCUITS AND SIGNALS		
V.G. Zabolotskikh: A Method of Increasing the Noise Immunity of the Digital Channel in PCM Systems	60	19
ANTENNA-WAVEGUIDE TECHNIQUES AND RADIO-WAVE PROPAGATION		
I.M. Teplyakov: An Antenna Tracking System for a Laser Communication System	65	25
BRIEF COMMUNICATIONS		
V.V. Grigorin-Ryabov, A.P. Bogachev and O.I. Shelukhin: Multichannel Short-Range Noise Radar Systems with Integral Scanning	74	35
A.I. Velichkin and V.V. Kotenko: Smoothing of a Continuous Message at the Output of a Communications System with Pulse-Code Modulation	76	38
V.P. D'yachkin and S.N. Krasil'nikov: Analysis of the Effect of Ionizing Radiation on the Frequency Stability of Oscillators	79	42
E.D. Kazakov: A Method of Extending the Limits of Applicability of a Mathematical Model of a Radar Target	82	44
A.S. Lushnikov: The Effect of Nonlinearity of the Main Reception Channel of a HF Trunkline Receiver on the Noise Immunity of Noncoherent Diversity Reception of Frequency-Shift Telegraphy Signals	84	47
C.G. Moiseyeva: A Combined System of Phase-Shift Keyed Signals	86	50
E.R. Astvatsatur'yan, S.A. Lonyushkov and A.I. Chumakov: Calculating the Pickup in Electronic Apparatus caused by Weak Quasi-Steady-State Electromagnetic Fields	89	53
S.Kh. Karpenkov: Determination of the Magnetic Flux of an Integral Head	91	56
A.M. Fishtein: A Comparative Analysis of the Phase-Amplitude Stabilities of Various Amplifier-Limiters	92	58
P.L. Gluzman: A Multifunction Magnetic Pulse-Modulation Device	95	60
V.V. Lebedev and V.L. Sheiman: An Assessment of the Possibilities of Building an Echo Locator for the Blind	97	63
G.V. Obrezkov: The Optimum Distribution of Signal Search Times	100	67
S.S. Vdovin, S.Ye. Zirka and G.Ye. Red'kin: Designing an Artificial Line Working into a Complex Load	102	70
A.N. Polonskiy and G.N. Kudrov: Analysis of a Multicircuit Nonlinear System	105	73
E.L. Vartashevskiy, A.E. Bereza and V.P. Kanunnikov: An Investigation of System Based on Rectangular Dielectric Waveguides with Ferrite Elements	108	77
G.A. Andreev and L.F. Chernaya: The Scattering of Millimeter Waves by Rough Surfaces	110	78

	Page English	Russian
V.S. Nekrasov, L.A. Paatashvili, and I.M. Polishchuk: A Problem of Electromagnetic Screening	112	81
FOR THE ENGINEER		
S.I. Orlov: A Frequency Doubler Based on a Varactor with an Abrupt Junction	115	85
Ya.M. Radikainen: A Data-Transmission Signal as Pilot Signal for Tracking Corrector-Measurement Systems	117	87
A.G. Ostapenko: Engineering Calculation of the Signal-to-Noise Ratio at the Output of Radio Circuits	120	91

Number 4

PART 1
TELECOMMUNICATIONS
Volume 34

MULTICHANNEL COMMUNICATIONS. COMMUNICATION LINKS

S.V. Borodich: Some Methods of Increasing the Efficiency of Radio-Transmission Systems	1	26
I.G. Grodnev and A.G. Muradyan: The Development of Optical Systems and Communication Cables	8	33
D.A. Baron and R.M. Lakernik: Balanced High-Frequency Cables in Aluminum and Steel Sheaths	13	38
S.P. Mordovin: The State of Technical Operation of the Radio-Relay Link Network and the Problem of Improving its Operating Quality	20	43
V.A. Gertsvol'f: The Reconstruction of Trunk Radio-Relay Links without Interrupting Communications	22	45
E.O. Bartel's: Experience in Using the TTsUMS-5 Radio-Relay Trunks	24	47
A.I. Rakov: Analysis of the Duration of Breakdowns in Radio-Relay Link Channels	25	48
A.L. Zherebtsov: A System for Switching Television Programs at Junction Radio Relay Stations	27	50
AUTOMATIC CONTROL SYSTEMS AND COMMUNICATIONS		
N.I. Voronin, B.A. Lopusov, B.F. Zhdanyuk: Automated Systems for Communications Control	30	53
THEORY OF SIGNAL TRANSMISSION		
L.E. Varakin and V.N. Talyzin: Noise Immunity of a Quasi-Optimum Adaptive Receiver of Noiselike Signals	33	56

PART 2
RADIO ENGINEERING
Volume 35

B.I. Makarenko and M.A. Ivanov: The Functional Method of Investigating Nonlinear Radio-Engineering Systems	40	13
RADIO-ELECTRONIC SYSTEMS		
V.I. Kozlov: A Method of Digital Phase Detection	49	25
RADIO CIRCUITS AND SIGNALS		
Z.M. Kanevskiy: Entropy Evaluation of Radio Transmission Secrecy	53	30
V.S. Bleikhman, A.Z. Burakovskiy, V.F. Mikhailov and A.V. Tsvigun: Characteristics of a Digital Channel and of a Data-Transmission Channel Produced by a Parallel Multifrequency Modem in a Decameter Radio Channel	57	35

	Page English	Russian
E.N. Evstaf'ev and V.P. Ipatov: Synthesis of an Optimum Shortening Filter ...	60	39
BRIEF COMMUNICATIONS		
I.F. Gavrilenko, V.P. Artemin and G.A. Aver'yanov: Synthesis of a Selector of Nanosecond Pulses	64	43
L.I. Volgin: Topological Interrelation Between Impedance Converter Circuits ..	66	45
E.S. Golovin: The Reliability of Mobile Radio Systems with Polarization-Diversity Reception	67	47
A.N. Denisenko: A Correlation Frequency Converter	70	50
R.E. Gut and M.L. Minevich: Data Transmission with Adaptation of Elementary Signal Duration and Code Characteristics	71	51
Yu.D. Sverkunov: Representation of Combination Harmonics at the Output of a Nonlinear System with a Parabolic Characteristic	73	54
N.Yu. Zhiburtovich: The Possibility of Using Physically Realizable Adaptive Compensators to Detect CW Signals Buried in Interference	76	57
S.G. Zhukov: Synthesis of Recursive Digital Filters Taking the Finite Word Length into Account	78	60
A.M. Shloma and G.B. Gol'fel'd: Sequential Detection of Signals Buried in Passive Interference	81	63
G.N. Orlov and A.P. Dyatlov: The Noise Immunity of a Correlator in a System with a Delayed LFM Signal	84	67
L.A. Reshetov: Angular Measurements in an Adaptive Antenna Discriminator...	86	69
A.B. Kuslik: Calculation of the Natural Q of a Cavity Resonator	89	72
A.P. Rodimov, V.V. Popovskiy and V.I. Dmitriyev: Statistical Synthesis of the Polarization Equation in Dynamic Radio Relay Lines	90	74
A.N. Zeliger: Optimum Timing Synchronization when Receiving Optical Signals	92	76
FOR THE ENGINEER		
A.N. Ignatov and K.V. Martyukin: High-Quality Electronic Switches for Analog Signals	94	79
V.E. Kitayev, B.V. Gorbachev and L.F. Zakharov: A Continuous Switching DC Stabilizer with a Controlled Rectifier	96	81
K.S. Sunduchkov and V.Ya. Kazimirenko: Parasitic Channels of Receiver Input Circuits	98	84
M.V. Biletov and I.S. Vassershtein: The Detection Characteristics of Non-coherent Radar Signals with Rapid Nakagi Fluctuations of the Reflected Signals	101	87

Number 5

PART 1
TELECOMMUNICATIONS
Volume 34

SECTION HEADING

P.Ya. Kantor, L.A. Korobkov, V.P. Kokoshkin and V.M. Tsirlin: The Transmission of Information in Digital Form in Satellite Communications Systems	1	12
M.I. Krivosheyev, V.P. Dvorkovich, V.V. Babich, and E.L. Ryvkin: Automatic Measurements of the Parameters of a Television Signal and the Quality of a TV Channel	7	17
I. Bradach, M. Kozlik and I. Kadlets: A New Generation of Transmitting Antennas for Television Bands IV-V	24	33
I.L. Nepomnyashchiy and V.G. Yampol'skiy: An Antenna Director in the Form of a Flat Polygonal Screen	28	38
S.P. Belousov, R.V. Gurevich and G.A. Kliger: The Mutual Coupling Between Two Antenna-Masts with a Lower-End Feed	32	41

	Page English	Russian
TELEGRAPHY AND DATA TRANSMISSION		
S.I. Mar[illegible]senitsen, V.N. Vrazhnov, L.I. Balanovskiy, A.N. Dzyuba and V.P. Kutasevich: Equipment for Automating Real-Time Transmission over the Post Office Telegraph Network	37	45
F.G. Kindirenko, L.N. Rudy and A.F. Tolochko: A Method of Designing a Digital Receiver for FM Signals	40	48
B.S. Danilov: The Sensitivity of High Speed Modems to Phase Jitter	43	50
SIGNAL GENERATION, CONVERSION AND AMPLIFICATION		
G.V. Petrov: The Phase-Frequency Characteristics of the Hybrid Integrated Circuits of Balanced Amplifiers	49	55
V.S. Lobko, Y .G. Nikitenko and N.I. Fedyayev: The Permissible Modulation Index of a Single-Circuit Phase-Frequency Modulator Using a Varactor Diode	51	57

PART 2
RADIO ENGINEERING
Volume 35

INSTRUMENTS AND CIRCUIT COMPONENTS		
O.F. Bokk: Transistor Stage Noise Factor in the Large Signal Case	54	12
RADIO ENGINEERING CIRCUITS AND SIGNALS		
L.E. Varakin and Yu.K. Sal'nikov: Optimization of Communication Systems which use Noiselike Signals and Error Correcting Codes	58	17
A.E. Znamenskiy, E.S. Muratov and V.N. Gulin: Features of the Construction of Narrowband Filters for Acoustic Surface Waves	62	22
ANTENNA-WAVEGUIDE TECHNIQUES AND RADIO-WAVE PROPAGATION		
G.I. Veselov, N.I. Platonov and E.S. Slesarev: Consideration of the Features of Electromagnetic Fields in the Method of Partial Regions	68	27
O.S. Litvinov: The Optimum Control Law of the Weighting Coefficients of Adaptive Antennas	75	34
A.G. Grankov and A.M. Shutko: Estimates of the Efficiency with which the Parameters of the Sea's Surface and the Parameters of the Atmosphere are Obtained by a Microwave Radiometric Method	79	38
BRIEF COMMUNICATIONS		
G.I. Bulanda and E.S. Golovin: The Efficiency of Analog Companding in Peripheral Radio Communications Systems	83	42
Ya.S. Basevich and A.A. Zakharov: Synthesis of Ideal Frequency Multipliers and Dividers	85	45
V.V. Vityazev, D.I. Kolyadko and A.I. Stepashkin: Realization of Nonrecursive Narrow-Band Digital Filters	87	47
L.N. Beskin: Generation of Super-High Harmonics	89	50
A.V. Silin and V.P. Samarin: Compatibility-Based Choice of Receiver Parameters in Communications Equipment	91	53
P.F. Polyakov: Adaptive Reception of AM Signals	94	56
I.I. Obod: Semiconductor Pentode Square Pulse Generator with High Duty Ratio	96	59
Yu.G. Kuz'min and R.A. Smirnov: The Use of Moving Approximation Interval to Analyze and Synthesize Wideband Amplifiers	97	61
V.G. Shironosov: The Use of Ferromagnetic Resonance to Increase the Sensitivity of Ponderomotive Wattmeters	100	64
M.A. Rad'ko and L.N. Stepanova: Bipolar Pulse to Quasi-dc Voltage Conversion Errors	101	65
D.I. Popov and V.I. Koshelev: Optimization of Digital Systems of Interperiod Signal Processing on a Background of Interference	102	67
V.V. Zhitkov: Correlation Functions of Multiphase Signals and Quadratic Forms of Several Variables	103	68

	Page English	Russian
N.A. Dolinin: Experiment Duration Probability Distribution in Truncated Sequential Sequential Analysis	105	70
N.A. Bashtin and A.N. Bashtin: The Possibility of Increasing Digital Data Transmission Speed in Morse Code Communications Systems	108	73
L.G. Zhuravin, M.A. Marinenko and E.I. Semyenov: Improvement in the Noise Immunity of Adaptive Telemetering Systems on the Basis of Zero Extrapolation and Error Correction	109	75
V.D. Shevelenko: Control of the Structure of Pulse Spectra	111	77
V.I. Volman: The Transfer Matrix of a Branching Network	114	81
G.P. Sinyavskiy: Thin Diaphragms in Waveguides with a Complex Cross Section	116	83
B.B. Shukov: Synthesizing An Antenna Array	119	86
DESIGN PAPERS		
V.A. Buryak, N.N. Kapitanov and P.P. Zayarnyi: Temperature Stabilization of the Phase-Frequency Characteristic of an Amplifier Incorporating Microcircuits	121	89
V.I. Anisimov, M.V. Kapitonov, N.N. Prokopenko, and Yu.M. Sokolov: The Input Stages of High-Speed Operational Amplifiers	122	91

Number 6

PART 1
TELECOMMUNICATIONS
Volume 34

SYSTEMS AND COMMUNICATIONS NETWORKS

N.V. Vinogradov: The Determination of the Efficiency of Radio-Relay Systems by Means of a Comprehensive Criterion	1	34
G.R. Kaplunov: Analysis of a System for Controlling the Communication Channels of a Data Transmission Network	7	38
TRUNK AND LOCAL RADIO COMMUNICATION		
E.A. Khmelnitskiy: The Distribution of Signal Levels on Short-Wave Radio Communication Links	12	43
G.M. Myaskovskiy and V.I. Kirichenko: The Statistical Characteristics of Radio Interference in the Active Zone of Overland Mobile Radio Communications	16	46
ANTENNAS		
A.A. Timofeyeva: An Antenna with an Offset Radiator	22	51
V.D. Kuznetsov and N.A. Reyushkin: A Directional Coupler with a Fixed Division Factor	26	55
GENERATION, CONVERSION AND AMPLIFICATION OF SIGNALS		
S.V. Listrovoi: Investigation of a Circuit with Two Parallel Networks Connected in Series	30	58

Part 2
RADIO ENGINEERING
Volume 35

ANTENNA-WAVEGUIDE TECHNIQUES AND THE PROPAGATION OF RADIO WAVES

A.A. Pistol'kors: The Method of Linear Equations in the Calculation of the Static Operating Mode of Adaptive Antenna Arrays	33	3

	Page English	Russian
DEVICES AND ELEMENTS		
A.M. Aminev, A.Kh. Sultanov, A.L. Timofeyev and Yu.I. Kovalev: Charge Inversion in Charge-Coupled Devices	39	10
RADIO CIRCUITS AND SIGNALS		
B.K. Boldin: A Data-Signal Synthesizer with a Localized Frequency Spectrum	43	15
O.N. Novoselov and A.F. Fomin: Noise-Immunity of Digital Transmission Systems with Rejection of Anomalous Errors	49	21
BRIEF COMMUNICATIONS		
A.S. Bogachev: Optimum Estimation of the Angular Coordinates of an Aircraft by Means of Multichannel Radio Direction Finding	56	28
E.G. Servinskiy: Comparison of Methods of Optimizing Systems According to Vector and Scalar Criteria	59	32
E.K. Algazinov and A.M. Bobreshov: The Noise Factor of a Receiver in the Presence of Interference	62	35
A.I. Nikitin, O.R. Nikitin, I.P. Singayevskiy and V.N. Soloukhina: The Design of Pulse Generators	63	36
A.G. Yatsunenko and I.I. Sokolovskiy: An Amplifier-Converter Using a Transferred-Electron Diode	66	40
A.V. Chelyadin: Shifting Frequency Using a Gunn Diode	67	42
V.A. Vishnyakov: Evaluation of the Accuracy of a Single-Channel Angle Meter with Amplitude Comparison in the Presence of Random Signal Loss	69	45
A.G. Ostapenko: Topological Synthesis of Active Circuits with Controlled Immittance	71	47
I.V. Povalyayeva: Effect of Reference Channel Nonlinearity on the Noise Immunity of Communication Channels	75	51
D.D. Klovskiy and V.Ya. Kontorovich: Analysis and Synthesis of Models of Random Fields Given by a Stochastic Differential Equation	77	54
M.G. Vitkov: Synthesis of Filters with Maximally Flat AFC and Equalized Attenuation in the Stopband	79	57
V.V. Kurilkin and A.F. Mironov: Characteristics of Switched Filters	82	60
V.N. Bronnikov: Analysis of the Noise Immunity of Continuous Message Transmission Using Analog Coding	85	64
E.Z. Gorshkova, M.P. Kiyanovskiy and N.P. Poddel'skiy: The Mode and Temporal Structures of Decameter Signals	88	67
A.A. Paramonov: Optimum Filtering of the Envelope of a Narrowband Random Process	90	70
S.S. Zharova: A Method of Designing a Lowpass Filter with Monotonic Transient Characteristics	93	73
M.N. Berger, B.Yu. Kapilevich and N.S. Simin: A Beyond-Cutoff Waveguide-Dielectric Filter Using Microstrip Lines	95	76
G.K. Konovalov and L.V. Knyazev: Aerosol Attenuation of IR Radiation by the Sea Atmosphere	98	79
L.N. Loshakov, N.E. Ivanova, V.K. Dzugayev: Calculation of a Screened Meander-Type Slow-Wave Structure Using the Field-Theory Method	100	82
FOR THE ENGINEER		
V.S. Kosterev and E.P. Kostereva: A Transceiver of PFM Signals for Optical Communication Lines	103	86
M.N. Drazhev and S.S. Rabov: High-Speed Logarithmic Video Amplifiers	106	90

Number 7

PART 1
TELECOMMUNICATIONS
Volume 34

N.M. Korsakov: Telegraph and Facsimile Communications at the Olympaid-80	1	1

	Page English	Russian
A.N. Golubev, I.M. Dvoretskiy, I.N. Driatskiy, Yu.P. Ivanov and L.S. Levin: Equipment for the Digital Transmission of Sound Broadcasting Signals	4	4
MULTICHANNEL COMMUNICATIONS		
M.I. Shlyakhter and G.E. Yartsev: The BK-960-2 Transmission System	11	10
E.K. Algazinov and A.M. Bobreskov: An Evaluation of the Sensitivity of a Microwave Receiver with a Traveling-Wave Tube at the Input Under Interference Conditions	19	16
G.A. Kerimov: Intermediate Stations of the R-600-2MV Equipment Design in Container Form Experience Gained from the Operation of the Radio Relay Link Between Barnaul and Biisk	21	18
COMMUNICATION NETWORKS		
A.S. Adzhemov and V.A. Ershov: The Probability of Lost Calls in a Two-Section Undivided System	23	32
POWER SUPPLIES		
F.I. Alexandrov: A Dynamic Voltage Stabilizer for Rectifier Assemblies	26	48
L.F. Zakharov: Correction of the Dynamic Characteristics of Voltage Stabilizers by Means of Feedback Circuits	29	51
G.R. Gromov: Evaluation of the Relative Error of a Digital Telemetering Channel .	32	57
CIRCUIT THEORY		
A.M. Men'shikov: Passive RC-Phase-Shifters for a Tone-Frequency Channel	34	58
PART 2 RADIO ENGINEERING Volume 35		
RADIO CIRCUITS AND SIGNALS		
A.A. Sikarev and A.M. Sochnev: Optimal Coherent Reception of Digital Data in Fluctuation, Concentrated, and Pulse Noise	40	7
P.F. Polyakov: Analysis of the Fine Structure of the Response of a Filter with a Quadratic Phase-Frequency Characteristic to a Linearly Frequency-Modulated Pulse	45	14
RADIO ELECTRONIC DEVICES		
D.P. Tsarapkin and N.V. Karutin: Fluctuations in an Oscillator with Partially Connected Tuned Circuit	50	19
ANTENNA-WAVEGUIDE TECHNIQUES AND RADIO-WAVE PROPAGATION		
S.T. Egorov, V.A. Plyushchev-and E.S. Yegorova: Microwave Radiometric Polarization Measurements for Solving Converse Problems	53	22
BRIEF COMMUNICATIONS		
B.A. Stryukov: Secondary Processing Optimal Algorithms and Circuits	58	27
E.P. Popechitelov: Influence of Noise on the Linear Rules of Chrominance Classification	60	30
L.I. Ponomarev and A.K. El'tsov: Energy Characteristics of the Addition of the Power of Semiconductor Microwave Generators	63	33
Yu.A. Andreyev: Double-T Bridge with Tunable Resonant Frequency	66	36
O.T. Matyushin: Fast Code-Phase Converter	68	39
L.N. Stepanova: Analysis of the Temperature Stability of the Gain of Amplifiers Using Controlled p-n-p-n Structure Equivalents	71	43
V.V. Kuznetsov and A.A. Lyubomudrov: Synthesis of Equivalent Circuits of Electromagnetic Screens	73	45
B.I. Shakhtarin and V.M. Mikhov: The Pull-In Range of a Third-Order PAFC ..	76	48

	Page English	Russian
P.S. Akimov, A.N. Kubasov and V.A. Odintsov: An Adaptive Rank-Type Sequential Detector	78	50
Yu.V. Smirnov and G.D. Mikhailov: Spectrum of a Signal Reflected from An Extended Moving Body	81	54
K.K. Vasil'yev and G. F. Komissarov: Detection of Incoherent Radio Signals Buried in Markov Interference with Unknown Parameters	83	57
M.I. Kharitonov and E.K. Tarygin: Optimization of the Input Circuit of the Playback Channel of Magnetic FM Recorders	86	59
D.D. Klovskiy and V. Ya. Kontorovich: Analysis of Markov Models of Discontinuous Random Processes	87	61
G.M. Levchenko: Approximate Method of Investigating the Dynamics of Second-Order PPAFC Systems	89	64
A.M. Movshovich: A PAFC Loop with a Microprocessor	92	67
M A. Mironov: Nonlinear Conversion of Random Telegraph Signals	95	70
E.R. Maksimov: Discrimination of Lognormal Processes that Differ in Variances	97	72
A.P. Trifonov and A.K. Senatorov: Analysis of Signal Discrimination Efficiency in a Receiver with a Chrominance Indicator	98	74
M.Yu. Komarov, S.V. Kritskiy and M.T. Novosartov: Synthesis of Antennas Using a Modified Method of Partial Patterns	101	77
G.A. Erokhin and A.A. Ryvlina: A Method of Calculating Obstacles with a Small Scattering Cross Section in the Field of a Plane Wave	104	80
FOR THE ENGINEER		
N.A. Klepitsa and A.I. Khoroshavin: The Design of a Noise Immune Synchronous-Phase Demodulator	106	83
S.V. Levinzon: Calculation of the Elements of Optoelectronic Circuits for Protecting Supply Sources	109	87
LETTERS TO THE EDITOR		
The Error in Evaluating Rice's Integral	112	90

Number 8

PART 1
TELECOMMUNICATIONS
Volume 34

O.N. Ivanova and A.G. Popova: The Structure of a Switching Junction with Electronic Control	1	4
B.S. Gol'dshtein: The Telephone Operational System of an Electronic Exchange	7	9
Yu.A. Ber, A.A. Greshilov, G.M. Matlin and V.S. Terekhov: A Mathematical Model of the Functioning of Communications Systems Organized on the Principle of Sequential Operations	11	13
TELEVISION		
G.V. Babuk: Some Consequences of the High-Frequency Precorrection of the SECAM Color Signal	17	18
V.M. Gel'fand: Regulation and Measurement of Random Interference in TV Transmitters	25	25
TELEGRAPHY. DATA TRANSMISSION		
V.N. Bolotnikov, L.A. Kenigfest, A.M. Repinskiy, I.E. Soloveychik, L.A. Shitova and K.K. Yarmarkin: The ELIT-T Telegraph Display	32	36
O.S. Chugreyev, A.I. Dement'yev and K.M. Imamverdiev: An Electronic Start-Stop Regenerator	34	38

	Page English	Russian
N. F. Genkina: A Method of Estimating Transmission Fidelity in Systems with Decision Feedback	39	42
COMPONENTS AND CIRCUITS		
Yu. R. Nosov: Optoelectronic Devices for Communications Apparatus	43	47
A. N. Ignatov and K. V. Martyukhin: Electronic Audio-Signal Switch Based on Integrated Circuits	46	50
CONTROL AND MEASUREMENT		
V. S. Kuz'kin and I. I. Piskareva: A Digital Method of Measuring Noise Level	49	55
Ya. M. Zolotarev and A. D. Zor'yev: An Instrument for Estimating the Parameters of a Digital Channel	53	58
PART 2 RADIO ENGINEERING Volume 35		
S. B. Makarov and I. A. Tsikin: A Digital Analog Method of Generating Signals with a Limited Spectrum	56	3
RADIO ELECTRONIC DEVICES		
L. I. Biberman: A Broadband Regenerative Amplifer	62	11
DEVICES AND COMPONENTS		
S. E. London and S. V. Tomashevich: Transformers with Maximum Bandwidth (Resistively Decoupled)	67	17
S. S. Vdovin: A Pulse Transformer Without a Ferromagnetic Core	70	20
ANTENNA-WAVEGUIDE TECHNIQUES AND THE PROPAGATION OF RADIO WAVES		
A. S. Bogachev: The Effect of Noise on the Performance Characteristics of a Synthesized Radiation Pattern of Receiving Antenna Arrays	75	25
BRIEF COMMUNICATIONS		
V. P. Postyushkov: Optimum Distribution of Energy Stores in a Communications System with Multiplexed Signals	79	30
V. V. Zaikin: Adaptive Representation of a Function with a Limited Spectrum	81	33
N. N. Shchelkunov: Errors in Quantizing the Coefficients of a Filter for the Discrete Fourier Transformation	83	36
N. P. Khvorostenko: Synthesis of Receivers that are Optimal in the Sense of the D-Criterion	85	38
B. M. Bogdanovich and V. P. Doroshev: Analysis and Optimization of the Characteristics of a Radio-Receiving Section with a Broadband Preselector	87	39
A. I. Tolstoi: The Design of Two-Stage Transistor Microwave Amplifiers with Lossless Matching Circuits	89	42
V. A. Dolzhenkov, V. V. Kobzer, N. G. Kozhemyakin, and V. V. Komlyakov: A Temperature-Stabilized Converter of a Bipolar Broadband Signal	92	46
E. V. Bayukova and A. M. Shcherba: Modulation Characteristics of Diode Mixers with a Microwave Intermediate Frequency	94	48
A. Yu. Simonov: Analysis of the Steady-State Mode of a Linear Diode Detector of CW AM Signals	96	50
L. N. Laut: Parasitic Amplitude Modulation in Single-Tank Self-Biased FM Oscillators	99	53
O. V. Kuznetsov and I. A. Strukov: Load-Noise Characteristics of an Autodyne Using IMPATT Diodes	102	56
O. A. Roman and V. K. Trepakov: Experimental Investigation of Frequency Multipliers Using Transferred-Electron Diodes	104	58

	Page English	Russian
I.S. Leshchinakaya and M.M. Leshchinskiy: Application of Hamming's Decimal Codes for Data Processing in Automatic Control Systems	105	60
Yu.N. Bakayev: The Lower Reading Frequency Limit in Continuous-Digital Filtering	107	62
Yu.I. Fel'dman: Approximation of the Probability Density at the Output of Postdetector Comb Filters	110	65
V.P. Sedyakin and A.S. Pechenkin: Experimental Investigation of the Error in Representing Certain Signals by Fourier Series	112	68
A.S. Levin: The Position and Value of the Maximum of the Main Lobe of the Focal Spot	113	70
V.I. Vol'man and A.I. Knizhnin: Analysis of an Inductive Rod in a Uniformly Bent Waveguide	116	72
V.G. Gusev, L.N. Popov and S.I. Len'kov: Analysis of FM Radiation in the Optical Band Using a Four-Mirror Interferometer	118	76
FOR THE ENGINEER		
S.V. Listrovoi: Optimum Matching of an Amplifier with Two Parallel Tuned Circuits Connected in Series	120	80
V.A. Buryak, A.Z. Zavadovskiy, P.P. Zayarnyi and N.N. Neilo: Amplifiers Based on Logic Integrated Microcircuits	122	89

Number 9

PART 1
TELECOMMUNICATIONS
Volume 34

MULTICHANNEL WIRE AND RADIO COMMUNICATIONS

E.D. Poborchiy: The KURS-2M Radio-Relay Equipment	1	9
A.N. Smantser and A.M. Shenderovich: The Permissible Group Time Delay Nonuniformity of a RF Baseband Channel for the Transmission of the Accompanying Sound Signal on a Subcarrier	7	14
AUTOMATIC SWITCHING AND COMMUNICATIONS NETWORKS		
E.B. Ershova: The Distribution of Control Functions in a Local Integrated Communications Network	15	25
V.G. Dedoborshch, V.P. Lupanin and M.M. Rykova: A Method of Evaluating an Interface for Telephone Stations with Programmed Control	21	34
V.F. Vasil'ev and G.M. Matlin: Some Models of Urban Telephone Network (UTN) Technical Maintenance Organization	26	38
THEORY OF CIRCUITS AND FILTERS		
A.E. Znamenskiy and L.N. Krylov: Realization of Acoustic Surface Wave Broadband Filters	31	43
V.I. Zakirov and M.A. Kalinina: A Method of Matching a Signal Source to a Load	35	47

PART 2
RADIO ENGINEERING
Volume 35

L.Ye. Varakin and V.N. Talyzin: An Adaptive Noise-Like Signal Receiver with Optimal Weights	37	3
V.V. Kozlovskiy: The Synthesis of a Nonuniform on the Basis of Two Resonant Frequency Spectra; the Case of Finite Input Capacitance	42	9

	Page English	Page Russian
A.I. Viches: Computer Evaluation of Magnetic Recording Equipment Parameters	46	12
A.E. Znamenskiy: Attenuation of Acoustic Surface Wave Filters in the Pass-Band	50	17

BRIEF COMMUNICATIONS

V.G. Kartashevskiy, D.D. Klovskiy and B.I. Nikolayev: Effect of "Decision Feedback" on the Noise Immunity of a Sequential System of Signal Processing in Channels with a Memory	54	22
Yu.I. Davydenko: The Effect of Fluctuations in the Signal, Interference and Noise Levels of Receivers when Estimating the Electromagnetic Compatibility of Means of Radio Communications	57	25
A.F. Tereshchenko: Relationship Between the Sensitivity and Range of Operation of an Autodyne and Radar Parameters	59	28
A.N. Fadeyev and A.A. Goryachev: Spectral Characteristics of the Signal of a Digital Frequency-Shift Keyer	61	30
V.A. Salikov: Analysis and Calculation of the Speed of Response of First-Order AGC Systems with Nonlinear Control Characteristics	63	33
A.N. Ignatov and A.I. Ryanskiy: Analysis of the Nonlinear Properties of Field-Effect Transistors in the Region Close to Cutoff	66	36
V.N. Bronnikov: Estimation of the Noise Immunity and Dynamic Error of the Reception of Signals with Phase-Amplitude Modulation	68	38
V.D. Shevelenko: Investigation of the Dynamic Features of Signal Spectra	71	41
M.I. Drugov, V.L. Karyakin, M.Yu. Solov'ev, and N.N. Stepanov: A Frequency Synthesizer Based on an Astatic Analog-Digital PAFC System	74	45
A.M. Fishtein: An Approximate Method of Analyzing the Phase Characteristics of Circuits	76	47
M.S. Gavrilyuk and Yu.V. Shevchenko: Taking into Account the Input Noise Correlation when Analyzing Discrete Synchronization Systems	78	50
A.M. Shloma and G.B. Gol'fel'd: Application of Student's Statistics to the Sequential Detection of Signals Buried in Interference with Unknown Correlations	81	53
V.R. Kryuchok and G.P. Lichko: Requirements Imposed on Methods of Synthesizing Digital Filters used in Flaw Detection of Antenna Systems	83	56
G.I. Veselov, S.B. Rayevskiy and V.A. Kalmyk: Investigation of Complex Waves in a Two-Layer Screened Waveguide	85	59
S.I. Maksimov, V.I. Novikov and D.A. Tsaryuk: Effect of Discretization of the Aperture Distribution on the Antenna Field	88	63
V.V. Kuznetsov and A.A. Lyubomudrov: The Penetration of an Electric Field Behind a Screen in a Nonstationary Conducting Medium	90	64
V.A. Kritsyn and S.A. Chebotarev: Stability of the Partial Phase Center of a Rectangular Aperture	93	68
V.I. Gorshkov and V.I. Korolev: Effect of Combination Interference on the Signal-to-Noise Ratio in Receiving Phased Antenna Arrays with a Small Nonlinearity of the Sections	96	71
A.L. Drabkin, O.B. Shonin and I.V. Shklyar: Investigation of the Near Electromagnetic Field for Different Phase Distributions of the Field Over the Radiator Aperture	99	75
A.M. Somov: Thermal Radiation of the Medium and the Noise Temperature of Antennas with Axially Symmetrical Radiation Pattern	100	77
V.I. Abramov: Design of a Two-Mode Horn with a Fine Dielectric Tube	103	80
G.G. Chavka and P.I. Khibenkov: Broadband Antenna Equivalents	105	82
Yu.B. Buzuyev, Yu.A. Erukhimovich, O.A. Litinskiy and A.A. Timofeyeva: Effect of Different Secondary-Reflector Support Systems on the Parameters of EDA-Type Antennas	107	84

Number 10

PART 1
TELECOMMUNICATIONS
Volume 34

COMMUNICATIONS LINES

V.P. Kirichenko and L.D. Razumov: An Analysis of the Vulnerability of Communications Cables to Damage from Lightning Discharges	1	1

	Page English	Page Russian
K.K. Nikolskiy and M.A. Protasov: Fundamentals of the Protection of Communications Cables from Corrosion in Urban Regions	6	6
MULTICHANNELS COMMUNICATION		
M.A. Bykhovskiy: Synthesis and Analysis of a Two-Channel Interference Compensator for FM Signals	10	16
A.Yu. Tsym: Calculation of the Unintelligible Noise Power for a Large Number of K-60 Transmission Systems in Parallel	17	22
DIAL SWITCHING AND TELEPHONE COMMUNICATION		
A.I. Vasilchenko, M.A. Zharkov, M.F. Lutov and P.A. Yunakov: The Operating Quality and Field of Application of a Transmission System Based on a Common Signaling Channel	21	24
V.V. Dobrovolskiy, I.V. Kushmanov and A.M. Filatov: The UMG-2 Equipment for Transmitting Service-Type Information at an Automatic Long Distance Telephone station	28	29
A.S. Silkin, G.A. Frunze, O.V. Kirtok, E.P. Polonskiy and A.L. Fuks: An Operational Analysis of the Operational Capability of an Automatic Long-Distance Telephone Station	33	33
I.S. Shlyuger, D.I. Kakuzin, A.S. Rakov and G.V. Ivanov: The Field Strength Generated by a Zenith Type Medium-Wave Antenna at Distances of up to 1700 km	39	41
L.I. Steninbuk and V.S. Maiorov: Calculation and Analysis of the Harmonic Distortion Factor in Cable Broadcasting Distribution Lines	42	44
SATELLITE COMMUNICATIONS		
S.E. Busyrev, V.M. Dorofeyev, M.L. Payanskaya and D.M. Chekhovskaya: The Design High-Speed Phase Modems for Systems Based on Multistation Access and Time Division Multiplexing	44	46
D.V. Gudenko, G.Kh. Pankov, A.G. Pauk, and V.M. Tsirlin: The Automatic Control System and Stand-by Facilities of the TDMA-40 Equipment	50	52
SIGNAL TRANSMISSION		
V.V. Palshkov: The Maximum Signal-to-Noise Ratio for the Reception of PTM Signals	55	55
PART 2		
RADIO ENGINEERING		
Volume 35		
A.I. Tyazhev: The Noise Immunity of an Autocorrelation Digital Demodulator of Frequency-Telegraphy Signals	59	5
P.S. Akimov and A.V Minacheva: Estimation of the Noise Immunity of the Non-Parametric Reception of an Optical Signal Which has Passed Through a Turbulent Atmosphere	62	10
N.Yu. Zhiburtovich: The Possibility of Compensating Interfering Signals Received via the Sidelobes of a Phased Antenna Array Radiation Patterns	67	15
BRIEF COMMUNICATIONS		
V.D. Dobykin: Effect of Multiple, Coherent Point-Source Signals on a Monopulse Direction Finder	79	27
V.S. Khmel'nitskiy: Determination of the Synchronizing Time of a Phase-Lock Loop System Containing an Active, Proportionally Integrating Filter	81	29
V.M. Bogachev, and I.G. Kiselev: Optimum Combining of Signals in Space-Diversity Reception	83	32
V.V. Grigorash: Control of the Frequency of an Ensemble of Independent Oscillators by an External Resonator	85	34
V.B. Tekshev: Noise Properties of HF and Microwave Amplifiers Constructed from a Number of Bipolar Transistors	88	37
Yu.M. Bruk: A Matched Eight-Terminal Frequency Separator	90	40
V.S. Mostyko: A Selective Amplifier with a Regulated Bandwidth	93	42
V.S. Grigor'yev: Thermal Compensation of Frequency Instability in RC-Oscillators	94	44

	Page English	Russian
L.I. Volgin: Composite Voltage Repeaters	97	48
S.I. Maksimov, V.I. Novikov and D.A. Tsaryuk: Computation of the Spectra of Finite Siganls Using Interpolation Splines	99	50
S.K. Savin: Determination of the Bandwidth of Linear Devices on the Basis of the Signal-to-Noise Criterion	101	53
B.S. Rybakov: Correlation Coefficients of the Envelope of a Normal, Random Process and of its Logarithm	102	54
V.V. Deyev: Nonlinear Transformation of Several Normal Random Signals	104	56
A.N. Sharov, Ye.N. Groshikov and A.M. Slabnov: An Experimental Investigation of the Correlation Characteristics of the Total Interference Originating from Extraneous Short-Wave Transmitters	107	60
M.V. Tinin: The Dead-Zone Range and the Maximum Usable Frequency for a Horizontally Inhomogeneous Ionospheric Layer	110	63
G.P. Batrachenko and Yu.B. Korchenkin: Analysis of the Characteristics of a Metal-Dielectric, Stepped Transformer for a Dielectric-Filled Waveguide	113	66
V.P. Voynov and P.F. Oleksenko: Analysis of the Frequency and Transfer Characteristics of an Optron Constructed from a Light Diode and Composite Phototransistor	115	69
F.I. Khaytun and I.Ye. Zamanskyya: The Choice of Photodiode Load Impedance in Pulsed Electron-Optical Systems	118	72
Yu.A. Gol'dshteyn and B.Ya. Frezinskiy: Statistical Estimation of the Time of Arrival of a Sequence of Optical PPM Pulses	120	74
B.N. Knyaz'kov, Ye.M. Kuleshov and M.S. Yanovskiy: Quasi-Optical Phase Shifters of Frequency at Submillimeter Wavelengths	121	76
FOR THE ENGINEER		
I.I. Obod: A Staircase Voltage Generator Constructed from Unijunction Transistor Analogues	124	79
A.A. Aleksanyan and V.A. Galakhov: Losses in Push-Pull, Low-Frequency Amplifiers of Pulse Width Modulated Signals	126	80
I.Z. Klimov and N.P. Parfenov: Relationships Between the Nonlinearity Parameters of Radio Receivers	127	82
Ye.V. Nikol'skiy: A Bandpass Filter Containing Five Coupled Tuned Circuits	130	87

Number 11

PART 1
TELECOMMUNICATIONS
Volume 34

SATELLITE TELECOMMUNICATIONS		
S.P. Kurilov, V.A. Borovkov and Yu.F. Konovalov: The Ground Station of the "Intersputnik" System in Algeria	1	1
MULTICHANNEL TELECOMMUNICATIONS		
N.E. Lugovskiy and G.N. Stepanov: The Communication Channel Equipment of the K-1920P Transmission System	7	6
Yu.P. Surkov: A Method for Evaluating the Capacities of Various Approaches for Loading Group Channels	13	11
V. Venke, S.A. Kuritsyn, V.I. Ponomarev and I.S. Sosnovskiy: Digital Signal Processing in Multichannel systems using FDC	20	16
COMMUNICATION NETWORKS		
V.O. Shvartsman: Systems for the Transmission, Concentration and Switching of Digital Data	24	20
L.V. Andreyeva, M.Ya. Kaller, Yu.I. Kopacheva, Yu.A. Parfenov and E.I. Sankovskiy: Determination of the Operating Attenuation of the Interconnecting Trunks of Urban Telephone Networks	32	27

	Page English	Russian
A.V. Nesterova: The Prediction of Interstation Traffic in Urban Telephone Networks	35	29
POWER SUPPLIES		
M.M. Lapirov-Skoblo: Magnetic Amplifiers in Electric Power Supplies with a Transformerless Input	40	37
B.A. Glebov: The Logical Selection of the Parameters of the Inductance Coils in Pulse-Type Energy Conversion Devices	43	40
A.G. Polikarpov and E.F. Sergienko: Stabilized Pulse Width Modulated Regulators with an Autotransformer Type Connection of the Inductance Coils	49	45
PART 2 RADIO ENGINEERING Volume 35		
V.I. Kovalenko: A Compatible Color Television System	53	15
Yu.P. Kilimnik and S.M. Arbuzov: The Distribution Function of the Data Transmission Time in Intermittent Communications Systems	58	20
A.S. Knyazev: Calculation of the Input Impedances of Radiators with Losses	61	23
N.F. Maksakov and V.L. Sokurenko: The Correlation Function of a Broadband Signal Taking into Account the Amplitude Distribution in the Aperture of a Phased Antenna Array	68	30
BRIEF COMMUNICATIONS		
V.A. Orlenko: Ring Synchronization in Two-Way Data Transmission Systems	72	34
E.F. Baburov: Adaptive Predistortion of Nonstationary Signals of Transmitted Pictures	73	36
A.A. Shibayev: The Noise Properties of a Frequency Converter for Large Changes in the Input Signals and Noise	75	38
V.F. Gubarev and N.N. Fomin: FM Signal Distortions in a Transistor Microwave Synchronous Amplifier	78	41
V.A. Bondar: High-Voltage Generators of a Linearly Varying Voltage with Field-Effect Devices	80	43
V.A. Galakhov: The Operation of Switched Low-Frequency Amplifiers into a Variable Load	82	46
A.V. Krivosheikin: Design of Tunable Filters and Correctors from the Accuracy Characteristics	83	47
Yu.B. Rogatkin: Analysis of the Speed of Response of a Differential Stage in an Integrated Voltage Comparator	86	50
Yu.S. Rusin: Determination of Parasitic Capacitances in Radio-Electronic Devices	89	53
A.P. Kulinich and A.V. Semenov: Compensation of the Reactances in Transmission-Line Transformer Inverters	90	55
V.V. Yudin: Investigation of Processes in a Generalized Magnetically Coupled Circuit	92	57
L.M. Gel'man and V.G. Sadovaya: Optimization of the Resolving Power of a Spectrum Analyzer when Detecting Narrowband Signals	94	59
V.Yu. Shcherbakov: The Use of an Estimate of an Unknown Model in the Problem of Linear Data Filtering	96	62
V.I. Bakhanovskii and A.I. Turkin: Formulation of the Problem of the Economic Decoding of Linear Codes in a Semicontinuous Communications Channel	98	65
A.S. Naumov: Rank Methods of Reception in the Large	100	67
A.I. Zaiko: The Covariance Function and the Spectral Density of a Wiener Process	101	68
V.P. Bezguzikov: Stabilization of the False-Alarm Probability Based on Nonparametric Properties of Order Statistics when Detecting a Pulse Signal Packet	104	71
A.Yu. Simonov: The Relationship Between the Conditions for no Nonlinear Distortion in Diode AM Detector	105	73

	Page English	Russian
P.Z. Rokhinson and A.S. Sokhranskiy: Normalization of Pulse Noise at the Output of a Narrow-Band Linear System	107	75
I.E. Ushakov and I.F. Shishkin: Spectrum of Backward Radio Wave Scattering by the Sea's Surface	109	77
Yu.P. Chuzhkov and V.E. Stel'mashenko: Adjustment of Polarization and Phase Characteristics of Helical Antennas	111	80
Yu.A. Pampu: The Choice of the Optimum Shape of Corrugation of Coaxial Cable	112	82
N.A. Kharkevich: Selection of Factors When Setting Up Active Planned Experiment for Radio-Electronic Equipment	115	85
FOR THE ENGINEER		
P.A. Shpan'on, Yu.F. Pavlenko, and A.F. Raikhman: Deviation Measurement Based on "Zero of Instantaneous Frequency"	116	86
A.S. Dubinker: High-Power Thyristor Magnetic High-Frequency Harmonic Generator	118	89

Number 12

PART 1
TELECOMMUNICATIONS
Volume 34

I.S. Goldfarb: The Transmission Characteristics of Optical Cables Subjected to Mechanical Stress	1	16
OPTICAL FIBERS ENGINEERING		
I.I. Teumin: Additional Losses in an Optical Cable	7	20
G.I. Grodnev: The External Field and the Noise Immunity of Twisted Optical Fibers	12	24
N.A. Semenov: The Input Energy Losses of an Optical Cable	16	27
O.I. Gorbunov, Yu.V. Svetnikov and V.T. Khrykin: A Digital Transmission System Incorporating an Optical Cable for Urban Telephone Networks	21	31
L.L. Ploshai, V.I. Smirnov, V.P. Filimonov and V.G. Chertov: The Requirements Imposed on Optical Connectors	28	38
T.A. Martynova and G.A. Cherenkov: Optimizing the Losses at the Joints of Optical Cable Links	30	40
S.M. Vernik, G.B. Kosolapenko and R.I. Shutin: Equipment for Measuring the Attenuation of Optical Cables During Installation and Operation	35	46
A.D. Oleinikov, V.V. Pershakov, V.S. Romanov and O.K. Sklyarov: An Instrument for Measuring the Distance to the Location of a Fault in an Optical Fiber or Cable	38	49

PART 2
RADIO ENGINEERING
Volume 35

A.A. Pistol'kors: Protection of the Main Maximum in Adaptive Antenna Arrays	40	8
Yu.M. Mel'nikov and V.G. Yampol'skiy: Increasing the Interference Immunity of Antennas by the Use of Special Screens	49	19
O.F. Bokk and A.V. Garmonov: Effect of a Protection Unit on the Output Signal of an Optimum Filter	53	23
V.I. Kozlov: Digital Phase Discriminators Based on Fractional Frequency Division	58	28
BRIEF COMMUNICATIONS		
B.N. Artyukhin: TV Recording Amplifier of a Memory System Using Electron-Beam Memory Tubes	63	33
P.A. Popov and A.N. Anuchin: The Use of an Exponential Approximation for Harmonic Analysis with a Computer	64	34

	Page English	Russian
N.A. Bol'shakov: Repetition Frequency of False Detections and Optimization of the Parameters of a Moving-Window Binary Detector	67	37
V.N. Kuleshov and G.M. Levchenko: Improving the Dynamic Characteristics of PPAFC Systems	68	39
E.S. Bugayets: A High-Speed Method of Generating M-Sequences	71	42
B.A. Goncharov, I.A. Mamzelev and V.M. Tuzov: Operating Modes of Gunn-Diode Oscillators for Supply Voltages Close to the Diode Threshold Voltage	73	44
N.A. Filinyuk, P.A. Molchanov and S.N. Pavlov: Temperature Stabilization of an Active Microwave Filter	75	47
K.A. Semenov and V.N. Ryabyshkin: Optimization of Matching Transformer Parameters for a MW Marine Transmitter	77	49
A.L. Asinovskiy: The Power Efficiency of a Class D Push-Pull Amplifier	79	51
A.M. Fishtein: Distortions in Linear Amplifiers Due to the Variable Component of Transistor-Junction Temperature	80	53
M.A. Shakirov: The Method of Conditional Decoupled-Stage Realization of Minimal Phase Four-Poles	83	55
G.V. Zakharova: Influence of the Shape of the Overall Circuit Transfer Response on Signal Distortion	85	59
I.I. Obod: Semiconductor Pentode Integrating Voltage-Frequency Converter	88	62
A.M. Mallyar: The Mean Number of Overshoots of the Phase Difference between Two Narrow-Band Stationary Normal Random Processes	89	63
D.I. Popov: Computer Simulation Analysis of Digital Systems of Signal Detection	92	66
V.M. Shlyakhin: Influence of the Type of Noise Distribution on Determinate Signal Detection	94	70
R.G. Tolparev and V.A. Polyakov: Noise Immunity of Optical Detectors with Algorithms of Neumann Structure	96	72
E.V. Borisov and A.S. Nezhel'skiy: Improving Time Sync Accuracy in Atmospheric Optical Links	99	75
Ya.V. Alishev and A.A. Berkutov: Influence of the Shape and Duty Ratio of Optical Pulses on Signal-to-Noise Ratio in Laser Communications Links	101	77